FACT SHEET FOR NPDES PERMIT WA-003143-7
B. P. OIL COMPANY, B. P. OIL #11093

SUMMARY

This fact sheet is a companion document to the draft National Discharge Elimination System (NPDES) Permit No. WA-003143-7. The Department of Ecology (the Department) is issuing this permit, which allows discharge of wastewater to waters of the state of Washington.

This fact sheet explains the nature of the discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions. Public involvement information is contained in Appendix A. Site maps are contained in Appendix B. Changes to the permit will be addressed in Appendix C--RESPONSE TO COMMENTS.

GENERAL INFORMATION

Applicant:	B. P. Oil Company
Facility Name and Address:	B. P. Oil Site #11093 16320 Mill Creek Boulevard Mill Creek, WA 98012
Type of Facility:	Ground Water Remediation
Discharge Location:	Latitude: 47° 51' 0" N Longitude: 122° 12' 0" W
Water Body ID Number:	WA-08-1065

TABLE OF CONTENTS

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

B. P. Service Station No. 11093 (site) is located at 16320 Mill Creek Boulevard in Mill Creek, Snohomish County, Washington (Figure 1). The ground water at the site has been adversely impacted by petroleum hydrocarbons from former leaking underground storage tanks. In November 1994, ownership and daily operation of the B. P.-branded retail service station was transferred from B. P. Oil Company (B. P. Oil) to the Circle K/Tosco Corporation. Since the time of the transfer, B. P. Oil has maintained oversight of petroleum-related environmental restoration issues predating the change in ownership, including operation of the groundwater remediation system.

Elevated concentrations of total petroleum hydrocarbons (TPH), volatile and halogenated organic compounds (HVOCs) were identified in the ground water from the site groundwater monitoring wells. The presence of HVOCs in the site ground water has been determined to be due to an off-site source, up-gradient to the site, which is unrelated to the operations of the former B. P. Oil Service Station.

The groundwater recovery and treatment system were installed and began operation on May 23, 1995. The treatment system is projected to operate until the contaminant concentrations in the ground water are below Washington Model Toxics Control Act Method A cleanup levels. A network of three recovery wells is used to recover the impacted ground water.

PROCESS DESCRIPTION

The groundwater treatment system employs air sparging and air stripping technology (shallow tray stripper) to treat the ground water. Air stripping involves contact of ambient air with a liquid for the purpose of preferentially vaporizing one or more components from a liquid stream into a gas stream.

The treatment system consists of two components: a sparge tank and a low profile, four-tray stripper. Air is forced through water passing through the sparge tank, leading to stripping of VOCs. The stripper forces draft, countercurrent air through baffled aeration trays to remove residual VOCs from the water. Impacted ground water is sprayed into the inlet chamber through a coarse mist spray nozzle. The water moves over a flow distribution weir and along the baffled aeration tray. Clean air, blown up through 3/16-inch diameter holes in the aeration tray, forms air bubbles, which generate a large mass transfer surface area where the contaminants are volatilized.

SYSTEM DESCRIPTION

The majority of the petroleum hydrocarbon-impacted ground water is pumped from three, 8-inch diameter recovery wells located in the western portion of the site (Figure 2). The upper portion of each recovery well is situated in a utility concrete vault. The vaults and recovery wells are secured by lockable lids. A second collection location for petroleum-impacted ground water, as of April 1998, is an off-site footing drain collection vault installed at the southwest corner of the medical services building located on the property immediately west of the site property. The off-site recovery system consists of an 18-inch diameter by 3-foot deep PVC sump installed within a 4-foot square concrete vault.

Utilizing three submersible total fluid pumps (one for each well) and a sump pump (for the footing drainage vault), the petroleum hydrocarbon-impacted ground water is pumped, via subsurface PVC piping, to the treatment compound in the southwest portion of the site. The treatment system discharges treated water through Outfall 001 to an on-site storm sewer catch basin, located approximately 15 feet from the treatment compound through the subsurface storm drain discharge line. Discharge from the storm sewer system is located alongside North Creek at a point north of the site. A representative line drawing of the treatment system is depicted on Figure 3.

PERMIT STATUS

The previous permit for this facility was issued on June 9, 2000, with an expiration date of May 30, 2004. The application for permit renewal was submitted to the Department on February 18, 2004, and accepted by the Department on February 27, 2004.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) and other reports submitted to the Department and inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Parameters	After treatment
TPH-G	0.11 mg/L
Benzene	1.6 µg/L
Total BTEX	<4 µg/L
Tetrachloroethene	<1 µg/L
Trichloroethene	<1 µg/L
Vinyl Chloride	<1 µg/L
Total Lead	6 µg/L
pH	6.9 to 8.4 s.u.

RECEIVING WATER DESCRIPTION

Treated water is discharged through Outfall 001 to an on-site storm sewer catch basin. Discharge from the storm sewer system is located alongside North Creek at a point north of the site. The receiving water for the storm sewer system discharge is North Creek (Class AA, fresh water). North Creek flows into the Sammamish River, which flows into the north end of Lake Washington. Characteristic uses include the following:

> Water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; aesthetic enjoyment; commerce and navigation.

Water quality standards that apply to Class AA water are presented in WAC 173-201A-030. In addition, concentrations of toxic substances, such as organic compounds and metals, must not exceed standards specified in WAC 173-201A-040.

The primary cause of water quality degradation in North Creek appears to be nonpoint source pollution that originates from urban and agricultural land uses in the watershed.

PROPOSED PERMIT LIMITATIONS AND CONDITIONS

The Clean Water Act 301(b) requires all point sources that discharge to the waters of the U.S. to meet technology-based effluent limitations and state water quality standards for the discharge of pollutants. Federal and state regulations require that effluent limitations set forth in an NPDES permit must be the most stringent of technology- or water quality-based limitations. Technology-based limitations are based upon the treatment methods available to treat specific wastewater. Technology-based limitations are set by regulation (40 CFR and Chapter 173-220 WAC).

Water quality-based limitations are based upon maintaining the characteristic and beneficial uses of receiving waters (Chapter 173-201A WAC) and assuring that the discharge will comply with the numerical water quality standards. The more stringent of these two limits must be chosen for each of the parameters of concern or an indicator for the parameters of concern.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Federal effluent guidelines have not been promulgated for wastewater discharges resulting from underground storage tank cleanups. Consequently, the technology-based effluent limits of this permit have been developed on a best professional judgement (BPJ) basis in accordance with 40 CFR 125.3. No water quality-based limit is set in this permit because the technology-based limit is more stringent than the water quality-based limit. The requirement that all wastewater permits issued by the State of Washington impose all known, available, and reasonable methods of control and treatment of pollutants (AKART) is satisfied for this permit through the determination of BPJ limits.

The regulation which authorizes discharges to the waters of the state of Washington, Chapter 173-220 WAC, requires that all discharges from point sources apply AKART to reduce the concentrations of pollutants. The treatment methods employed at this facility satisfy this requirement. The limitations expressed in this permit have been consistently met at similar treatment facilities under similar conditions. The widespread treatment efficiencies associated with these cleanups are a demonstration that the technology necessary to achieve these limits is available and economically reasonable.

EFFLUENT LIMITATIONS

The following technology-based effluent limitations have been proposed for this permit:

PARAMETER	LIMITATION (Daily Maximum)
Flow	43,200 gpd
pH	6.5-8.5 s.u. (page 8)
Benzene	5.0 μg/L
BETX	100 μg/L
TPH-G	1.0 mg/L
Lead (total recoverable)	5.0 μg/L
Volatile Organic Compounds (VOC):	
Vinyl Chloride	0.2 μg/L
trans and cis-1,2-Dichloroethene	1.0 μg/L
Trichloroethene	1.0 μg/L
Tetrachloroethene	1.0 μg/L

The daily maximum is defined as the greatest allowable value for any calendar day.
The flow limitation was derived from information supplied by the Permittee in the application.

The effluent limitations for BETX, TPH, lead, and vinyl chloride were based on the Method A cleanup levels for ground water under the Model Toxics Control Act.

Since the effluent limitations for VOCs, except for vinyl chloride, are below the EPA-established quantitation levels (QL) for these parameters, compliance will be evaluated by comparison with the QLs. The QL for each chlorinated organic compound is 10 μg/L. The limitations for chlorinated organic compounds are based on treatment system performance from data supplied by the Permittee.

The limitation for TPH is based on the application of AKART. The Toxic Cleanup Program of the Department of Ecology has established that treatment system performance from similar cleanup operations has resulted in pollutant discharge concentrations which meet this limit.

No limitation is set for lead at this time. Monitoring-only is required.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established surface water quality standards. The Washington State surface water quality standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. The Department will use the designated classification criteria or this water body in the proposed permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in Washington State's water quality standards for surface waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the water quality standards are used along with chemical and physical data for the waste water and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA, 1992). These criteria are designed to protect humans from cancer and other diseases and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

ANTIDEGRADATION

The Washington State's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be protected. More information on Washington State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the water body's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic waterbody uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA, 1992).

WATER QUALITY-BASED EFFLUENT LIMITS FOR NUMERIC CRITERIA

The water quality-based effluent limits in this permit are as follows:

Parameter	Effluent Limit
pH	between 6.5 and 8.5 standard units

According to Chapter 173-201A, North Creek is classified as fresh water receiving water. The water quality criteria for pH in a Class "AA" fresh water environment are between 6.5 and 8.5 standard units.

Snohomish County Surface Water Management has conducted ambient monitoring which indicates that copper concentrations have occasionally exceeded the water quality standards chronic criterion for copper in the receiving water. No limit is set for copper in this permit because copper is not present in environmentally significant concentrations in the effluent.

MONITORING AND RECORDING

Effluent monitoring, recording, and reporting are required (WAC 173-220-210) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved. The monitoring and testing schedule is detailed in the permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

TOXICITY TESTING

The water quality standards also require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the waste water in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Whole effluent toxicity testing measures both acute toxicity and chronic toxicity.

Unidentified sources of toxicity are not expected to be present in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. The Permittee is specifically exempt from toxicity testing under WAC 173-205-040 for the following reasons:

1. The facility is designed and managed to keep hazardous substances physically separated at all times from the treatment and discharge system [WAC 173-205-040-1(a)(i)];

2. Water standards exist for most the toxic pollutants in the discharge [WAC 173-205-040-1(b)]. The concentrations of these pollutants before treatment are consistently below the water quality standards as shown in the following table (all concentrations are in micrograms per liter):

Parameter	Concentration After Treatment, (µg/L)	WQ Standard, (µg/L)
Dichloroethenes	ND	11,600
Trichloroethene (TCE)	<1	21,900
Tetrachloroethene (PCE)	<1	840

3. The Department has determined that the discharge does not have the potential to contain toxic components in toxic amounts [WAC 173-205-040-1(h)].

For the above reasons, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

If the Permittee makes process or material changes which in the Department's opinion result in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the next permit renewal. The Permittee may demonstrate to the Department that changes have not increased effluent toxicity by performing additional toxicity testing at the time the process or material changes are made. This demonstration may include the use of rapid screening tests if rapid screening tests were conducted as auxiliary tests during effluent characterization.

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of application standards (WAC 173-204-400).

The Department has determined that the discharge from this facility is not likely to contain toxic materials in concentrations which may cause violations of the sediment standards. Thus, sediment monitoring is not required in this permit. Should the characteristics of the discharge change such that violations of the sediment quality standards become more likely, sediment monitoring may be required through either a modification of the permit or through an administrative order.

SPILL AND SOLID WASTE CONTROL PLAN

These plans are required to ensure that proper management practices become an integral part of daily operations in order to prevent accidental or unpermitted releases to the waters of the state.

TREATMENT SYSTEM OPERATING PLAN

The treatment system will be operated according to procedures and criteria described in an approved operating plan. This plan will be submitted for the Department review. The plan will, at a minimum:

A. Define the baseline operating conditions describe the operating parameters and procedures to be used under these conditions.

B. Describe the operating parameters and procedures needed to maintain permit compliance during foreseeable unusual operating conditions.

C. Describe any regularly scheduled maintenance or repair activities at the permitted facilities which would affect the volume or character of the wastes discharged.

D. Contain a list including quantities and chemical compositions of any maintenance-related substances (such as cleaners, degreasers, solvents, etc.) that will be used.

The plan may also include an evaluation of influent, intermediate, and final effluent testing results of the activated carbon treatment system. The purpose of the evaluation would be to identify indicator parameters and monitoring points that would provide for effective compliance monitoring with reduced testing frequencies. If included in the plan, this evaluation should also include a proposed schedule for compliance and operations monitoring.

STORMWATER BEST MANAGEMENT PRACTICES PLAN

A stormwater best management practices (BMP) plan will be submitted to the Department for review. The plan will address the following source control BMPs: containment and storage of contaminated soils during drilling and construction, provisions for roofs over storage and working areas, and provisions for drainage from ground water treatment system area.

OTHER SPECIAL CONDITIONS

The specific requirements listed in permit Condition S3 are derived directly from federal regulations at 40 CFR 122.22, 122.41, 122.44, and 122.48.

HUMAN HEALTH

The water quality standards now include 91 numeric human health-based criteria as promulgated by the US EPA in the National Toxics Rule (Federal Register, V.57. No. 246, Tuesday, December 22, 1992). The human health-based water quality criteria incorporate several exposure and risk assumptions. These include a 70-year lifetime of daily exposure, a 6.5 gram/day ingestion rate for fish or shellfish, 2 liters/day ingestion rate for drinking water, and a one-in-one million excess cancer risk for carcinogenic chemicals. Lake Washington is not a source for drinking water supply. Therefore, the criteria for fish and shellfish consumption apply to this Permittee's discharge.

The applicable criteria are as follows:

Parameter	Criteria (μg/L)
Vinyl Chloride	525
TCE	81
PCE	8.825

The effluent limits established in this permit (0.2 or 1.0 μg/L) at the end of the pipe are consistently more restrictive than the criteria established for the protection of human health.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all NPDES permits issued by the Department.

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary, to meet water quality standards or ground water standards, based on new information obtained from sources such as inspections, effluent monitoring.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this permit be issued for a period of five (5) years.

REFERENCES

1. DMRs from LUST permit cleanup site (TPH, lead).

2. Environmental Protection Agency (EPA) 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

3. EPA 1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

4. King County's reports of monitoring of wastewater discharges at groundwater remediation sites.

5. Model NPDES Permit for Discharges Resulting From the Cleanup of Gasoline Released From Underground Storage Tanks. EPA Office of Water Enforcement and Permits and Office of Underground Storage Tanks. June 1989.

6. North Creek, Watershed Management Plan, Technical Supplement, Snohomish County Public Works Surface Water Management, September 1993.

7. NPDES Permit Application submitted by B. P. Oil Company, at the Mill Creek site on February 18, 2004.

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed above. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on March 1 and March 8, 2004, in the *Everett Herald* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department published a Public Notice of Draft (PNOD) on May 27, 2004, in the *Everett Herald* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 4:30 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
WA State Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7201, or by writing to the address listed above.

This permit and fact sheet has been prepared by Jeanne Tran, P.E.

APPENDIX B—SITE MAPS

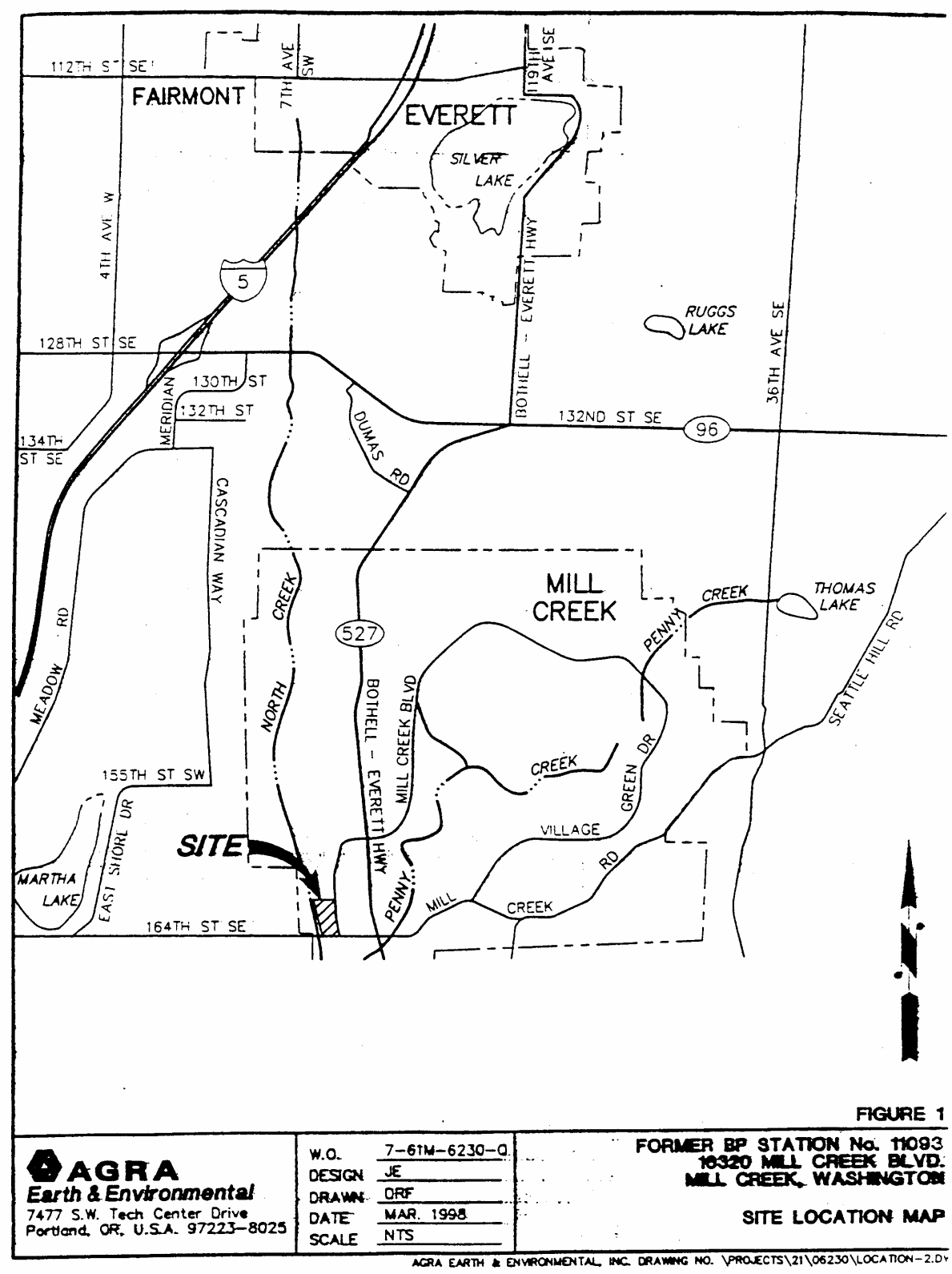

FIGURE 1

AGRA Earth & Environmental 7477 S.W. Tech Center Drive Portland, OR, U.S.A. 97223-8025	W.O. 7-61M-6230-0 DESIGN JE DRAWN DRF DATE MAR. 1998 SCALE NTS	FORMER BP STATION No. 11093 16320 MILL CREEK BLVD. MILL CREEK, WASHINGTON SITE LOCATION MAP

AGRA EARTH & ENVIRONMENTAL, INC. DRAWING NO. \PROJECTS\21\06230\LOCATION-2.DY

Figure 1.

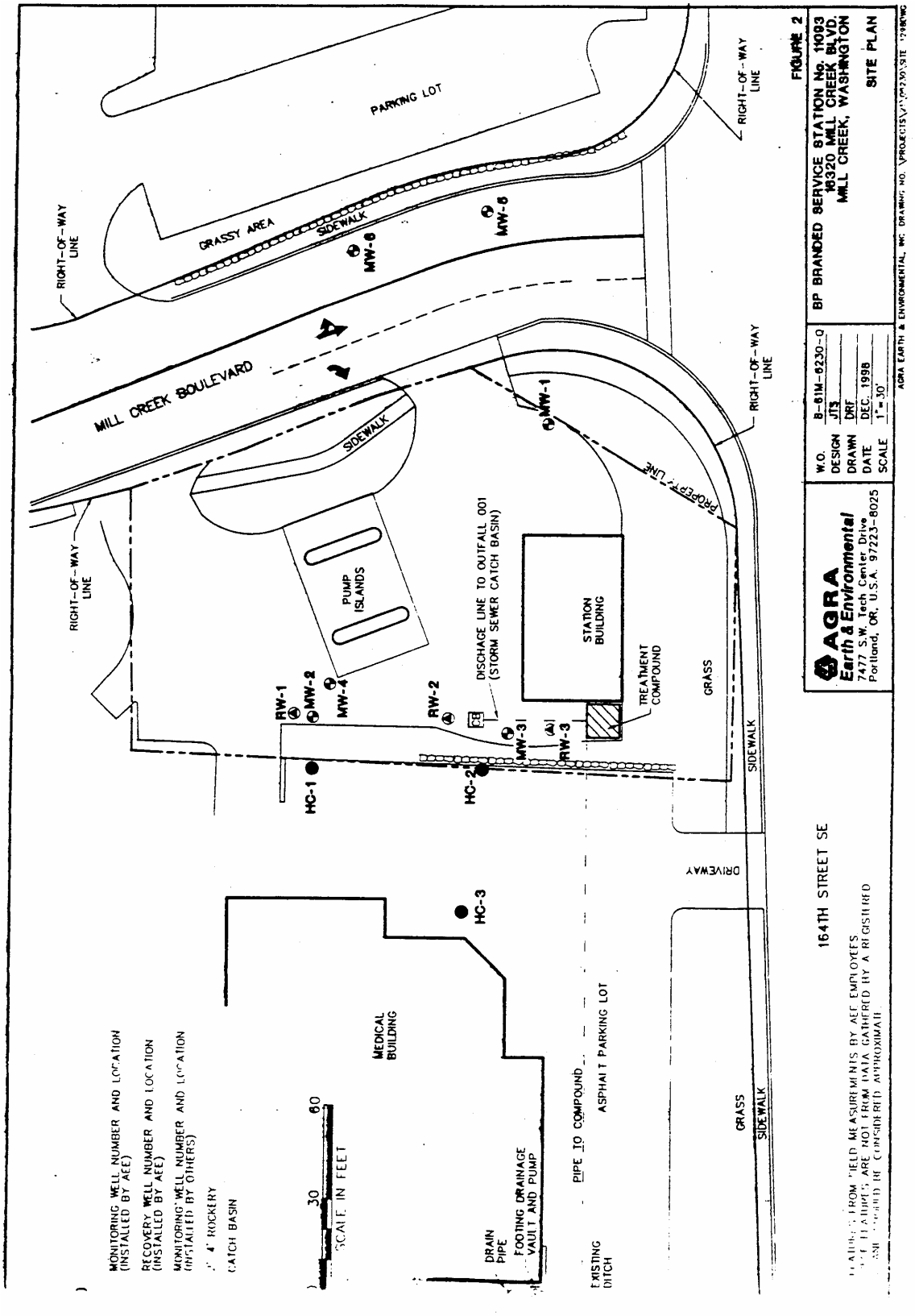
PARKING LOT
GRASSY AREA
SIDEWALK
MW-6
MW-5
RIGHT-OF-WAY LINE
MILL CREEK BOULEVARD
MW-1
PROPERTY LINE
PUMP ISLANDS
DISCHAGE LINE TO OUTFALL 001 (STORM SEWER CATCH BASIN)
STATION BUILDING
TREATMENT COMPOUND
GRASS
RW-1
MW-2
MW-4
RW-2
MW-3
RW-3
HC-1
HC-2
HC-3
DRIVEWAY
164TH STREET SE
MEDICAL BUILDING
ASPHALT PARKING LOT
PIPE TO COMPOUND
EXISTING DITCH
DRAIN PIPE
FOOTING DRAINAGE VAULT AND PUMP
SCALE IN FEET
30
60
MONITORING WELL NUMBER AND LOCATION (INSTALLED BY AEE)
RECOVERY WELL NUMBER AND LOCATION (INSTALLED BY AEE)
MONITORING WELL NUMBER AND LOCATION (INSTALLED BY OTHERS)
ROCKERY
CATCH BASIN
AGRA Earth & Environmental
7477 S.W. Tech Center Drive
Portland, OR, U.S.A. 97223-8025
W.O. B-81M-6230-Q
DESIGN JT3
DRAWN DRF
DATE DEC. 1998
SCALE 1"=30'
BP BRANDED SERVICE STATION No. 11093
18320 MILL CREEK BLVD.
MILL CREEK, WASHINGTON
SITE PLAN
FIGURE 2

Figure 2.

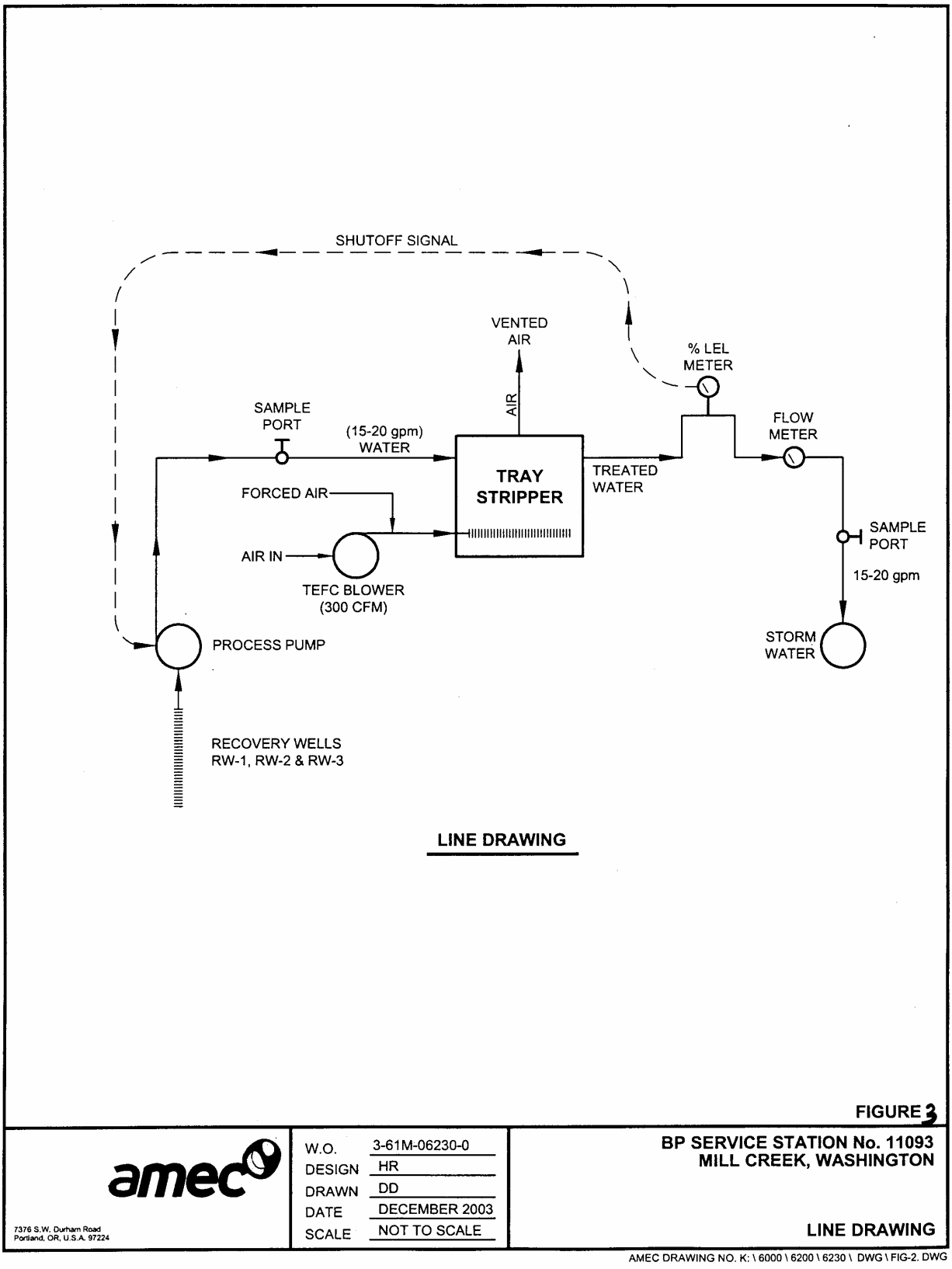
SHUTOFF SIGNAL
VENTED AIR
% LEL METER
AIR
SAMPLE PORT
(15-20 gpm) WATER
TRAY STRIPPER
FLOW METER
TREATED WATER
FORCED AIR
AIR IN
TEFC BLOWER (300 CFM)
SAMPLE PORT
15-20 gpm
PROCESS PUMP
STORM WATER
RECOVERY WELLS RW-1, RW-2 & RW-3
LINE DRAWING
FIGURE 3
amec
7376 S.W. Durham Road Portland, OR, U.S.A. 97224
W.O. 3-61M-06230-0
DESIGN HR
DRAWN DD
DATE DECEMBER 2003
SCALE NOT TO SCALE
BP SERVICE STATION No. 11093
MILL CREEK, WASHINGTON
LINE DRAWING
AMEC DRAWING NO. K: \ 6000 \ 6200 \ 6230 \ DWG \ FIG-2. DWG

Figure 3.

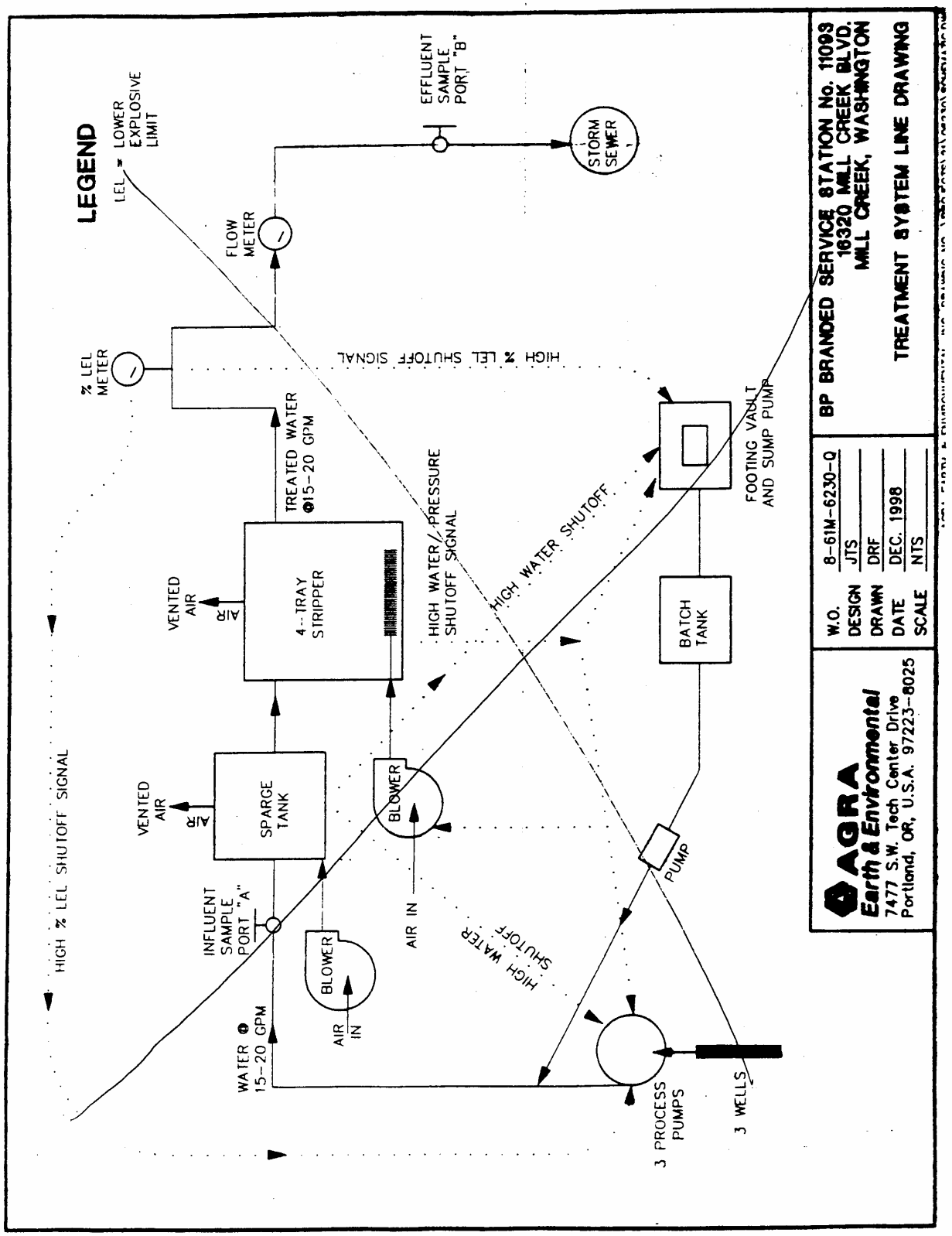
LEGEND
LEL = LOWER EXPLOSIVE LIMIT
EFFLUENT SAMPLE PORT "B"
STORM SEWER
FLOW METER
% LEL METER
HIGH % LEL SHUTOFF SIGNAL
TREATED WATER @15-20 GPM
VENTED AIR
4-TRAY STRIPPER
HIGH WATER/PRESSURE SHUTOFF SIGNAL
HIGH WATER SHUTOFF
FOOTING VAULT AND SUMP PUMP
BATCH TANK
SPARGE TANK
BLOWER
PUMP
INFLUENT SAMPLE PORT "A"
AIR IN
HIGH WATER SHUTOFF
WATER @ 15-20 GPM
3 PROCESS PUMPS
3 WELLS
HIGH % LEL SHUTOFF SIGNAL
AGRA Earth & Environmental
7477 S.W. Tech Center Drive
Portland, OR, U.S.A. 97223-8025
W.O. 8-61M-6230-Q
DESIGN JTS
DRAWN DRF
DATE DEC. 1998
SCALE NTS
BP BRANDED SERVICE STATION No. 11093
16320 MILL CREEK BLVD.
MILL CREEK, WASHINGTON
TREATMENT SYSTEM LINE DRAWING

Figure 4.

APPENDIX C—RESPONSE TO COMMENTS